

CHAPTER 450  
MOTOR VEHICLE EQUIPMENT

[Appeared as Ch 1, Department of Public Safety, 1973 IDR; amended January 1975 IDR Supplement]  
[Prior to 6/3/87, Transportation Department[820]—(07.E)Ch 1]

**\*761—450.1(321) Safety standards for motor vehicle equipment.** The National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1381 et seq.), as amended, provides for the establishment of federal motor vehicle safety standards. Therefore, when the Iowa Code requires the department to establish standards for motor vehicle equipment or to approve types of motor vehicle equipment, the department shall consider the item approved or standard established if it complies with the applicable federal motor vehicle safety standard in 49 CFR Parts 501-590 (October 1, 1987).

\*Objection filed 6/13/90, see objection at end of this chapter.

**450.1(1) Definitions.** This rule is based on the definitions in Iowa Code section 321.1 and the following definitions from the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391, Section 102):

*a. “Motor vehicle equipment”* means any system, part, or component of a motor vehicle as originally manufactured or any similar part or component manufactured or sold for replacement or improvement of such system, part, or component or as an accessory, or addition to the motor vehicle.

*b. “Motor vehicle safety”* means the performance of motor vehicles or motor vehicle equipment in such a manner that the public is protected against unreasonable risk of accidents occurring as a result of the design, construction or performance of motor vehicles and is also protected against unreasonable risk of death or injury to persons in the event accidents do occur, and includes nonoperational safety of such vehicles.

*c. “Motor vehicle safety standards”* means a minimum standard for motor vehicle performance, or motor vehicle equipment performance, which is practicable, which meets the need for motor vehicle safety and which provides objective criteria.

**450.1(2) Identification.** No person shall sell or offer for sale any item of motor vehicle equipment unless it is identified by the manufacturer’s trademark or brand name.

**450.1(3) Department approval requirement.** An item of motor vehicle equipment must be submitted to the department for approval only when a federal motor vehicle standard has not been issued and when Iowa Code chapter 321 specifies that department approval is required.

**450.1(4) Request for approval.** When department approval of an item of motor vehicle equipment is required, the manufacturer shall submit to the department a written request for approval. The request shall include the following:

*a.* Identification of the trademark or brand name, the model name or number, and an adequate description of the product.

*b.* A test report showing compliance with relevant state standards or standards issued or endorsed by recognized standard-setting organizations or agencies.

**450.1(5) Compliance review.** The department may review the submission of a manufacturer to determine compliance and may purchase, borrow or rent items of motor vehicle equipment for compliance testing. The department may also enter into cooperative arrangements with other states, the American Association of Motor Vehicle Administrators, or other agencies to minimize duplication of effort.

**450.1(6) Noncompliance.** When the department has reason to believe that an item of motor vehicle equipment is being sold or offered for sale in violation of federal law, Iowa Code chapter 321, or these rules, the department is authorized to investigate and impose sanctions pursuant to Iowa Code chapters 17A and 321.

**450.1(7) Availability of federal regulations.**

a. The Code of Federal Regulations may be obtained from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402.

b. For those items of equipment under departmental jurisdiction, photocopies of the applicable federal regulations are obtainable at cost through the Office of Vehicle Registration, Iowa Department of Transportation, P.O. Box 9278, Des Moines, Iowa 50306-9278, or at its location in Park Fair Mall, 100 Euclid Ave., Des Moines; telephone (515)237-3021.

This rule is intended to implement Iowa Code sections 321.231, 321.236, 321.309, 321.317, 321.373, 321.381, 321.383, 321.391, 321.423, 321.424, 321.428, 321.429, 321.430, 321.433, 321.438, 321.440, 321.444, 321.445 and 321.462.

**761—450.2(321) Equipment requirements for specially constructed, reconstructed and kit motor vehicles, other than motorcycles.** The following standards are minimum requirements for constructing and equipping specially constructed, reconstructed and kit motor vehicles other than motorcycles.

**450.2(1) Definitions.** The definitions in Iowa Code section 321.1 and rules 761—Chapter 400 are hereby made part of this chapter.

**450.2(2) Application.** As outlined in rule 761—400.16(321), the applicant shall submit the required application forms and exhibits to the county treasurer. The vehicle and ownership documents shall be examined by the department. If the department determines that the motor vehicle complies with this rule, that the integral parts and components have been identified as to ownership, and that the application forms have been completed properly, the department shall assign an identification number to the vehicle and certify that the motor vehicle is eligible for titling and registration.

**450.2(3) Defroster and defogging device.** Every closed motor vehicle, and every such open vehicle equipped with a convertible top, shall be equipped with a device capable of defogging or defrosting the windshield area.

**450.2(4) Door latches.** Every motor vehicle that is equipped with doors leading directly into a compartment that contains one or more seating accommodations shall be equipped with mechanically actuated door latches which firmly and automatically secure the door when pushed closed and which allow each door to be opened from the inside by the actuation of a convenient lever, handle or other suitable device. Exterior and interior handles must be visible.

**450.2(5) Floor pan.** Every motor vehicle shall be equipped with a floor pan under the entire passenger-carrying compartment. The floor pan shall support the weight of the number of occupants that the vehicle is designed to carry. The floor pan shall be so constructed that it prevents the entry of exhaust fumes.

**450.2(6) Glazing.**

a. **Windshields.** Every motor vehicle shall be equipped with a laminated safety glass windshield that complies with and bears the approval marking of the American National Standards Institute (ANSI) Z 26.1 Standard. The windshield shall be in such a position that it affords continuous horizontal frontal protection to the driver and front seat occupants. The minimum vertical height of the unobstructed windshield glass shall be 6 inches. This paragraph does not preclude the use of a windshield that can be folded down to a horizontal position, provided that the windshield can be firmly fastened in both the vertical and horizontal positions.

b. **Side and rear glass.** Side and rear glass is not required in motor vehicles. If present, however, this glass must be either laminated or tempered safety glass bearing the approval of the ANSI Z 26.1 Standard.

**450.2(7) *Driver visibility.*** Each motor vehicle shall provide the driver with a minimum outward horizontal vision capability of 90 degrees each side of a vertical plane passing through the fore and aft centerline of the vehicle. This plane of vision may be interrupted by window framing and windshield door support posts not exceeding 4 inches in width at each side location.

**450.2(8) *Hood latches.*** If a motor vehicle is equipped with a front-opening hood, that hood shall be equipped with a primary and secondary latching system to hold the hood in a closed position.

**450.2(9) *Instruments and controls.*** Each motor vehicle shall be equipped with:

a. An operating speedometer calibrated to indicate "miles per hour."  
b. An operating odometer calibrated to indicate "total miles driven."  
c. A steering wheel circular or nearly circular in shape, having an outside diameter of not less than 13 inches.

d. An accelerator control system that returns the engine throttle to an idle position automatically when the driver removes the actuating force from the accelerator control.

**450.2(10) *Brakes.***

a. Every motor vehicle shall be equipped with brakes acting upon all wheels. The service brakes must be capable of meeting or exceeding the stopping requirements of Iowa Code section 321.431. If necessary, the braking system may be tested by a road test on a public roadway by an officer of the motor vehicle division of the department.

b. Every motor vehicle shall be equipped with a parking brake operating on at least two wheels applied with required effectiveness despite exhaustion of any source of energy or leakage of any kind in the service brake system. The parking brake shall meet the requirements of Iowa Code sections 321.430 and 321.431.

**450.2(11) *Rearview mirror.*** Every motor vehicle shall be equipped with two rearview mirrors, each having substantial unit magnification. One shall be mounted on the inside of the vehicle in such a position that it affords the driver a clear view to the rear. The other shall be mounted on the outside of the vehicle on the driver's side in such a position that it affords the driver a clear view to the rear. When an inside mirror does not give a clear view to the rear, a right-hand outside mirror shall be required in lieu thereof. The mirror mounting shall provide a stable support for the mirror, and shall provide for mirror adjustment by tilting in both horizontal and vertical directions. Each mirror shall have a minimum of 10 square inches of reflective surface.

**450.2(12) *Seat belts.*** Every motor vehicle shall be equipped with at least a Type I (lap belt) seat belt for the driver and each passenger seating position. The belts at each location shall comply with DOT Motor Vehicle Safety Standard No. 209, and shall be firmly anchored to the vehicle body.

**450.2(13) *Seating.*** All bench-type and individual seats in motor vehicles shall be attached to structural or body parts.

**450.2(14) *Fenders and mud flaps.*** All wheels of every motor vehicle shall be equipped with fenders designed at the widest point to cover the entire tread width that comes in contact with the road surface. Coverage of the tire tread circumference shall be from at least 15 degrees in front to at least 75 degrees to the rear of the vertical centerline at each wheel measured from the center of the wheel rotation. At no time shall the tire come in contact with the body, fender, or chassis of the vehicle. Trucks and truck tractors shall be equipped on the rear with a device to prevent debris from being thrown to the rear. A representation of the fender requirements is depicted in the Appendix of this rule.

**450.2(15) Bumpers.** Every motor vehicle shall be equipped with bumpers, one located at the front of the vehicle and one located at the rear. The bumpers may be either horizontal, or vertical grill bars of sturdy construction, but in either case, shall have at least an evenly distributed portion of their horizontal load bearing width within 14 inches and 22 inches above the level road surface, and which extend no less than the width of their respective wheel track distances. The horizontal bumper or vertical grill bars shall be at least 4½ inches in vertical height and centered on the vehicle's fore and aft centerline, and shall be firmly attached to the vehicle frame. All trucks and trailers must have some type of rear end protective device or bumper within 30 inches of the ground, not more than 24 inches in from the rear and within 18 inches of each side of the vehicle. These devices shall be substantially constructed and firmly attached. Vehicles constructed and maintained so that the body chassis or other parts of the vehicle afford the rear end protection, including the rear duals of a vehicle, are in compliance.

**450.2(16) Exhaust system.** Every motor vehicle shall have an exhaust system meeting the following requirements:

*a.* The system shall be free of leaks, including the exhaust manifold (or headers), piping forward of the muffler, the muffler(s), and tail piping.

*b.* Exhaust fumes shall be emitted to the extremity of the vehicle, behind the rear wheels, or to the extremity of the vehicle within 6 inches in front of the rear wheels. Exhaust fumes from trucks, other than enclosed vans, may be emitted to the rear of that part of the vehicle designed for and normally used for carrying the driver and passengers.

*c.* Each exhaust system must be equipped with a muffler that prevents excessive noise.

*d.* No part of the exhaust system shall pass through any area of the vehicle that is used as a passenger-carrying compartment, and shall be so constructed that persons entering the vehicle cannot make contact with the exhaust system.

*e.* All exterior side exhaust pipes must be fully shielded and any vertical truck exhaust stacks shall be shielded to the top of the cab.

**450.2(17) Frame.** Every vehicle shall be equipped with a frame consisting of a wall box tubing, wall channel or unitized construction capable of supporting the vehicle, its load and the torque produced by the power source.

**450.2(18) Fuel system.** Every motor vehicle shall have a fuel system in which all components are securely fastened with fasteners designed for this purpose, including the tank, tubing, hoses, clamps, etc. The filler from the system shall be located in a position not within the passenger-carrying compartment, and shall be capped. The system shall be leakproof, and fuel lines shall be positioned so as not to come in contact with high temperature surfaces or moving parts.

**450.2(19) Steering and suspension.**

*a.* Every motor vehicle shall have no parts extending below the wheel rims in their lowest position, except for tires and electrical grounding devices designed for this purpose.

*b.* These vehicles shall have a right turn and left turn minimum turning radius of 20 feet measured from the center of the turning circle to the outside front wheel track. The steering system shall remain unobstructed when turned from lock to lock.

*c.* The steering wheel shall have no less than two turns and no more than six turns when turning the road wheels from lock to lock.

*d.* While in a sharp turn at a speed between 5 and 15 MPH, release of the steering wheel shall result in a distinct tendency for the vehicle to increase its turning radius.

*e.* No motor vehicle shall be constructed so that the weight on any axle is less than 20 percent of the gross weight of the vehicle and load.

f. Motor vehicles shall be equipped with a damping device at each wheel location providing a minimum relative motion between the unsprung axle and the chassis of plus or minus 2 inches.

g. When each corner of the vehicle is depressed and released the damping device shall stop vertical body motion within two cycles.

h. There shall be no heating or welding on coil springs, leaf springs, or torsion bars.

i. Motor vehicles shall be capable of stable, controlled operation while traversing, at a minimum velocity of 25 miles per hour, a slalom-type path passing alternately to the left and right of at least four cones or markers arranged in a straight line and spaced at a distance of 40 feet greater than the length of the motor vehicle.

**450.2(20) Tires.** Tires shall comply with Iowa Code section 321.440. Each tire shall have a load-bearing capacity in keeping with the size and weight of the vehicle.

**450.2(21) Lighting and electrical system.** Each motor vehicle shall be equipped with approved lighting devices in sufficient number, type, and locations to meet the requirements of Iowa Code sections 321.384 to 321.423, including headlamps, rear lamps, license plate lamp, rear reflectors, parking lamps, stop lamps, turn signals, and high-low beam indicator. In addition, every motor vehicle shall be equipped with:

a. A driver-controlled switch capable of selecting high and low beams (dimmer switch).

b. A motor vehicle more than 40 inches in width shall be equipped with turn signal lamps and have a manually operated switch controlled by the driver that shall cause the turn signal lamps to function. This switch shall be self-canceling.

c. A horn that shall be electrically actuated, and shall emit a sound clearly audible from a distance of 200 feet. The horn shall be actuated with a switch easily accessible to the driver when operating the vehicle.

d. All wiring shall be done in an orderly and workmanlike fashion, with no wiring in contact with high temperature surfaces or moving parts.

e. Headlamps shall be in a plane that is perpendicular to a vertical plane through the longitudinal centerline of the vehicle. The headlamps shall be mounted not less than 24 inches, nor more than 54 inches, above the road surface when measured to the headlamp center.

f. A tail lamp or lamps shall be mounted on the rear of the motor vehicle or vehicle, exhibiting a red light plainly visible from a distance of 500 feet to the rear. The tail lamp or lamps shall be mounted not less than 15 inches, nor more than 72 inches, above the roadway.

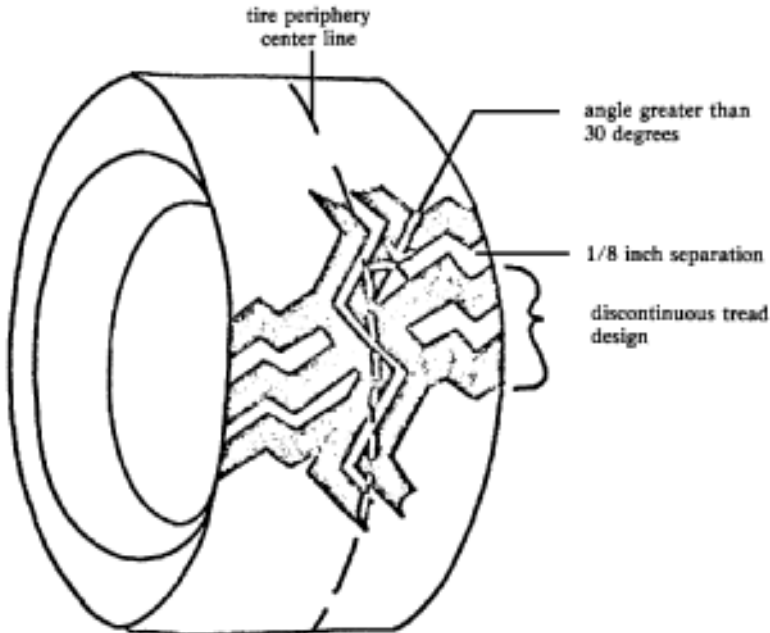
g. All original lamps and lighting equipment provided on the motor vehicle by the manufacturer shall be maintained in working condition or shall be replaced with equivalent equipment.

This rule is intended to implement Iowa Code section 321.23.

**761—450.3(321) Mud and snow tire.** A mud and snow tire is a tire that is designed to provide additional starting, stopping and driving traction in mud and snow. The tread design shall have ribs, lugs, blocks or knobs which are discontinuous and have a minimum separation of one-eighth of an inch between the ribs, lugs, blocks or knobs. A substantial portion of the rib, lug, block or knob edge in the design of the tread shall be at an angle greater than 30 degrees to the periphery centerline. A mud and snow tire must comply with the tire restrictions expressed in Iowa Code section 321.440.

A tire labeled "Mud and Snow" or any contraction using the letters "M" and "S," such as "MS," "M/S," "M-S" or "M & S" shall be considered a mud and snow tire.

A representation of the distinguishing features of a mud and snow tire is pictured below.



This rule is intended to implement Iowa Code subsection 321.236(12).

**761—450.4(321) Minimum requirements for constructing and equipping specially constructed or reconstructed motorcycles.** Minimum requirements for constructing and equipping specially constructed or reconstructed motorcycles as defined in Iowa Code section 321.1 are as follows:

**450.4(1)** Reserved.

**450.4(2) Upgrade pulls—minimum speed.** No motor vehicle or combination of vehicles which cannot proceed up a 3 percent grade, on dry concrete pavement, at a minimum speed of 20 miles per hour, shall be operated upon the highways of this state.

**450.4(3) Engine.** No two-wheeled motorcycle shall be equipped with an engine (propelling power plant) which is not of a motorcycle manufacturer's design for use on motorcycles.

**450.4(4) Frame/chassis.** A motorcycle frame/chassis, including the suspension components and engine mountings, shall be of sufficient strength, capable of supporting the combined weight of all vehicle components and riders for which the vehicle was designed.

**450.4(5) Front end assembly.**

*a. Trail (extended fork measured in inches).* No reconstructed or specially constructed motorcycle shall have the front fork so extended as to place the center of the front wheel axle farther than 36 inches from a vertical plane through the steering axis.

*b. Rake (extended fork measured in degrees).* No reconstructed or specially constructed motorcycle shall have the front fork so extended as to exceed a 45 degree angle between the fork assembly and a vertical plane through the steering axis.

c. *Extensions.* No reconstructed or specially constructed motorcycle shall be equipped with extension slugs. However, one-piece extension tubes and springer units, if approved, are acceptable.

d. *Wheelbase.* No reconstructed or specially constructed motorcycle shall have an overall wheelbase, measured from the center of the front axle to the center of the rear axle, of less than 40 inches.

e. *Motorcycle front end geometry.* A representation of the front end geometry of a motorcycle is depicted in the Appendix to this rule.

**450.4(6) Brakes.** Every motorcycle shall be equipped with at least a rear brake. If the vehicle is also equipped with a front brake, all control cables, lines and hoses shall be located and secured so as not to become pinched between the fork and frame members when the wheel is turned completely to the left or right. Brake-actuating devices shall be in a readily accessible location, unencumbered by vehicle components. A suitable mechanism shall be provided for the purpose of automatically returning the actuating devices to a normal position upon release.

**450.4(7) Tires, wheels, rims.** Motorcycle tires shall be of pneumatic design with a minimum width of two and twenty-five hundredths inches and designed for highway use. Wheel rim diameters shall not be less than 10 inches and rims shall otherwise comply with applicable federal standards.

**450.4(8) Steering and suspension.**

a. *Stability.* Motorcycle steering and suspension shall provide the operator with the means of safely controlling vehicle direction.

b. *Wheel alignment.* The rear wheel of a two-wheel motorcycle shall track behind the front wheel within 1 inch with both wheels in a vertical plane when the vehicle is operating on a straight course. On a three-wheel motorcycle, the two wheels mounted on the rear axle shall have a wheel track distance not less than 30 inches and the midpoint of the rear wheel track distance shall be within 1 inch of the front wheel track when the vehicle is proceeding on a straight course.

c. *Steering head.* The steering head shall be provided with a bearing or similar device that will allow the steering shaft to turn freely in rotational motion only. All handlebar-mounted control cables, wires, lines and hoses shall be located and secured so as not to become pinched between the fork and frame members when the wheel is turned completely to the right or the left.

d. *Handlebars.* Handlebars shall be of sturdy construction, adequate in size (length) to provide proper leverage for steering, and capable of withstanding a minimum force of 100 pounds applied to each hand grip in any direction. Handlebar grips shall be located no more than 15 inches above the occupied seat with the handlebars located in a straight ahead steering position. The handlebars shall be capable of vertical adjustment. The handlebars shall provide a minimum distance of 18 inches between grips after final assembly.

e. *Hand grips.* Motorcycles shall have handlebars equipped with hand grips of nonslip design or material.

f. *Suspension.* Motorcycles shall be equipped with a suspension system, and the suspension system shall be applicable to at least the front wheel. The suspension system(s) shall be designed for the purpose of maximum vehicle stability.

**450.4(9) Fuel system.** All fuel system components, including the tank, pump, tubing, hoses, clamps, etc., shall be securely fastened to the motorcycle so as not to interfere with vehicle operation and be leakproof when the vehicle is in its normal operating attitude. Fuel lines and tank shall be positioned in a manner so as to prevent their contact with the engine head, manifold, exhaust system, or other high temperature surfaces or moving components. The fuel system shall be adequately vented and provided with a fuel shutoff valve located between the fuel supply and the engine.

**450.4(10) Exhaust system.** Motorcycles shall be equipped with an exhaust system incorporating a muffler or other mechanical device for the purpose of reducing engine noise. Cutouts and bypasses in the exhaust system are prohibited. The system shall be leakproof and all components shall be securely attached to the vehicle and located so as not to interfere with the operation of the motorcycle. Shielding shall be provided to prevent inadvertent contact with the exhaust system by the operator and/or passenger during normal operations.

**450.4(11) Mirrors.** Every motorcycle shall be equipped with at least one mirror of unit magnification, securely affixed to the handlebar and capable of adjustment within a range that will reflect an image that includes at least the horizon and the road surface to the rear of the motorcycle. The mirror shall consist of a minimum reflective surface of 10 square inches. All mirrors shall be regular in shape (circular, oval, rectangular, or square) and shall not contain sharp edges or projections capable of producing injury.

**450.4(12) Fenders.** The rear wheel of any reconstructed or specially constructed motorcycle shall be equipped with a fender or otherwise be covered by the body configuration. The fender shall be securely mounted and of sufficient size and strength to prevent water or other road surface substances from being thrown to the rear of the vehicle.

**450.4(13) Seat or saddle.** A seat or saddle securely attached to the vehicle shall be provided for the use of the operator. The seat or saddle shall not be less than 20 inches above a level road surface when measured to the lowest point on top of the seat or saddle cushion with the driver seated in a driving position. The seat or saddle adjustment locking device shall prevent relative movement of the seat from its selected and secured position under all normal vehicle operating conditions.

**450.4(14) Horn.** Every motorcycle shall be equipped with at least one horn. The horn shall be electrically operated and shall operate from a control device located on the handlebar. When operated the horn shall be audible for at least 200 feet.

**450.4(15) Speedometer and odometer.** Every motorcycle shall be equipped with a properly operating speedometer and odometer calibrated in miles per hour and miles respectively and shall be fully illuminated when the headlamp(s) is(are) activated.

**450.4(16) Lighting equipment.** Every motorcycle and motorized bicycle shall be equipped with at least one headlamp but not more than two, mounted securely. Headlamp(s) shall be mounted not less than 24 inches, nor more than 54 inches, above the level road surface. A headlight beam indicator light shall be located within the operator's field of vision and illuminated automatically when the high beam of the headlamp is actuated. Every motorcycle shall be equipped with a tail and brake light assembly and a license plate light. All original lamps and lighting equipment provided on the motor vehicle by the manufacturer shall be maintained in working condition or shall be replaced with equivalent equipment.

**450.4(17) Footrest.** Two footrests, one on each side of the vehicle, shall be provided for each designated seating position. Footrests shall be located so as to provide reasonable accessibility. Footrests shall be able to fold upward if they protrude beyond the side of the motorcycle's fixed items.

**450.4(18) Highway bars.** If a motorcycle is so equipped, highway bars (alternate footrests) shall be located at a maximum distance of 26 inches from the foot controls and shall not interfere with the operation of the foot controls.

This rule is intended to implement Iowa Code section 321.23.



**761—450.6(321) Safety requirements for the movement of implements of husbandry by retail sellers and manufacturers.** The following standards are minimum safety requirements for the movement of implements of husbandry by the retail seller between the retail seller and a farm purchaser, or the movement of indivisible implements of husbandry by the manufacturer or retail seller between the place of manufacture and a retail seller or farm purchaser.

**450.6(1) Towing standard.** No power unit operated by a retail seller or manufacturer shall tow more than one implement of husbandry from the manufacturer to the retail seller, from the retail seller to the farm purchaser, or from the manufacturer to the farm purchaser.

**450.6(2) Equipment standards.**

*a. Braking.* The towing unit or self-propelled implement of husbandry operated upon a highway shall be equipped with a braking device(s) which can control the movement of and stop the vehicle(s). When the vehicle is traveling 20 miles per hour, the braking device shall be adequate to stop the vehicle or vehicles within 30 feet if the gross weight is less than 5000 pounds and 50 feet if the gross weight is 5000 pounds or more.

*b. Rearview mirror.* The towing vehicle or self-propelled implement of husbandry shall be equipped with a rearview mirror that reflects to the operator a view of the highway for a distance of at least 200 feet to the rear of the vehicle(s). The rearview mirror equipment standard may be met by the use and installation of a temporary rearview mirror.

*c. Lighting.* The towing or towed vehicle or self-propelled implement of husbandry shall be equipped with at least one rear taillight which exhibits a red light plainly visible from a distance of 500 feet to the rear. The rear taillight equipment standard may be met by the use and installation of a temporary rear taillight. If an implement of husbandry is being towed by a vehicle which is equipped with brake lights, the towed unit must also have brake lights, constructed and located on the implement of husbandry so as to give a signal of intention to stop. The light shall be red or yellow in color. The signal shall be plainly visible in normal sunlight and at night from a distance of 100 feet to the rear and may be met by the use and installation of a temporary light.

*d. Turn signal.* The towing or towed vehicle or self-propelled implement of husbandry shall be equipped with a turn-signal device that operates in conjunction with or separately from the rear taillight. The signal shall be plainly visible and understandable from a distance of 100 feet to the rear. The turn-signal device equipment standard may be met by the use and installation of a temporary turn-signal device.

*e. Tires.* Pneumatic tires shall not be used if any part of the ply or cord is exposed; if there is any bump, bulge, or separation; if there is a tread design depth of less than one-sixteenth inch; if there is marking "not for highway use" or "unsafe for highway use."

*f. Warning devices.* A towing vehicle or self-propelled implement of husbandry shall be equipped with flares, red reflectors or reflective triangles if operated after sunset and before sunrise.

*g. Drawbar.* When one vehicle is towing another vehicle, the drawbar shall be of sufficient strength to pull the weight towed and shall be fastened to the frame of the towing unit so as to prevent sidesway. In addition to the principal connection there shall be a safety chain which shall be fastened so it is capable of holding the towed vehicle if the principal connection fails.

This rule is intended to implement Iowa Code section 321.383.

**761—450.7(321) Front windshields, windows or sidewings.**

**450.7(1) *Prohibition.*** Pursuant to Iowa Code subsection 321.438(2), a person shall not operate on the highway a motor vehicle equipped with a front windshield, a side window to the immediate right or left of the driver (front side window) or a sidewing forward of and to the left or right of the driver (front sidewing) which is excessively dark or reflective.

**450.7(2) *Standard of transparency.*** “Excessively dark or reflective” means that the windshield, front side window or front sidewing does not meet the minimum standard of transparency established in 49 CFR 571.205(ANS Z-26.1-1977 and Z-26.1a-1980) adopted in rule 450.1(321). The federal regulation establishes a minimum standard of transparency requiring 70 percent light transmittance.

**450.7(3) *Dark window exemption.***

*a.* A person suffering from a severe light-sensitive condition may be exempt from the standard of transparency if the need is documented by a physician. The exemption does not apply to a commercial vehicle.

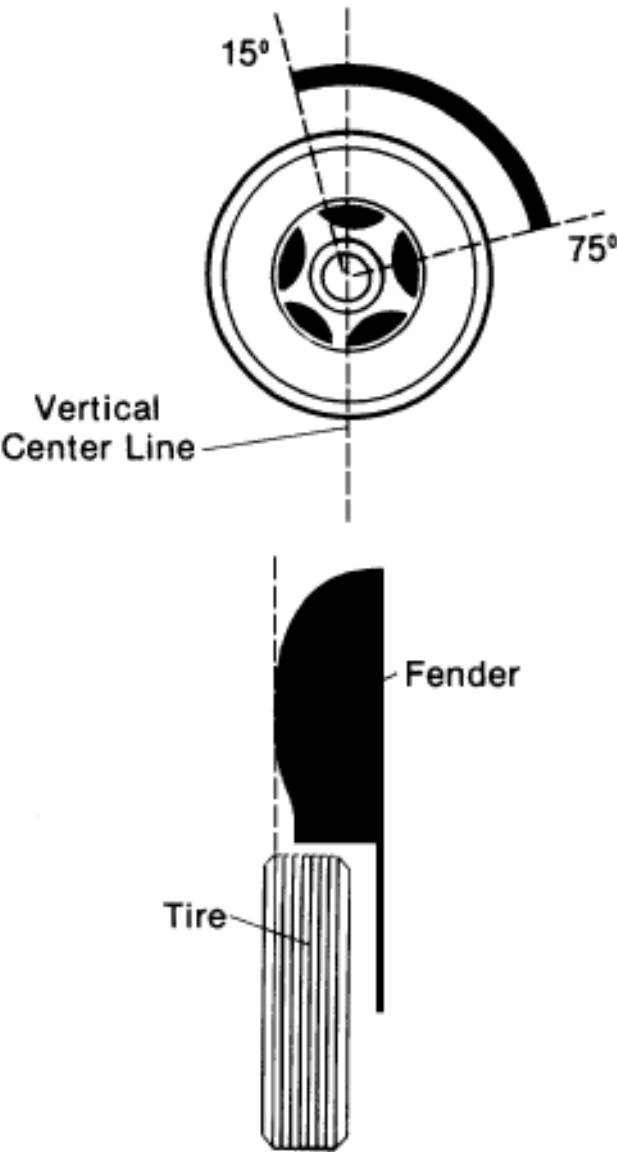
*b.* A passenger or operator of a motor vehicle who for medical reasons requires a front windshield, a front side window or a front sidewing with less than 70 percent but not less than 35 percent light transmittance may obtain a form to be signed by the person’s physician. Form 432020 is available from the office of vehicle registration at the address in paragraph 450.1(7) “*b.*”

*c.* “Physician” as used in this rule means a person licensed under Iowa Code chapter 148, 150, 150A or 154.

This rule is intended to implement Iowa Code section 321.438.

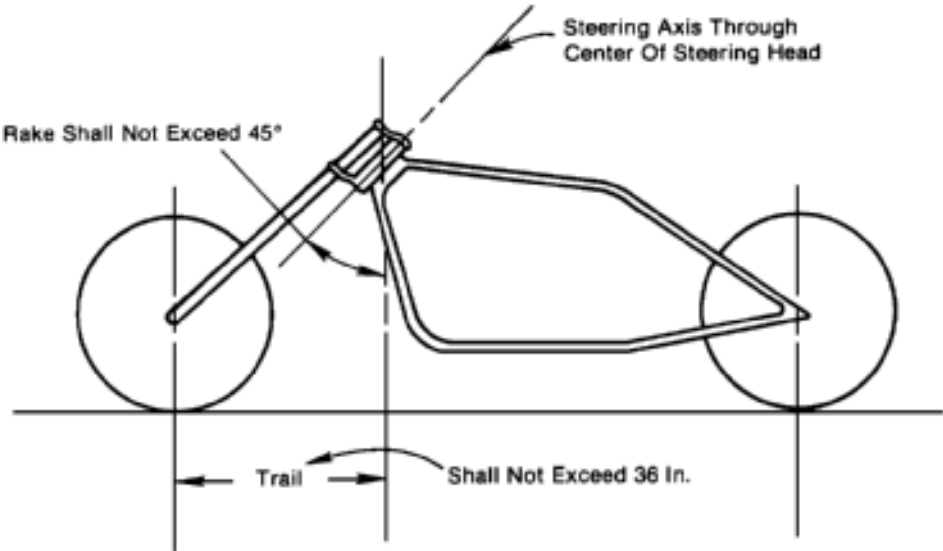
APPENDIX TO RULE  
761—450.2(321)

**Fender Requirements**



APPENDIX TO RULE  
761—450.4(321)

MOTORCYCLE FRONT END GEOMETRY



[Filed 6/30/61; amended 6/14/72, 12/9/74;  
Transferred to Department of Transportation 7/1/75]  
[Emergency amendment filed 10/10/75—published 10/20/75, effective 11/1/75]  
[Filed 3/17/76, Notice 1/26/76—published 4/5/76, effective 5/10/76]  
[Filed 10/26/79, Notice 9/5/79—published 11/14/79, effective 12/19/79]  
[Filed 1/28/82, Notice 12/9/81—published 2/17/82, effective 3/24/82]  
[Filed 9/8/83, Notice 7/20/83—published 9/28/83, effective 11/2/83]  
[Filed 12/23/83, Notice 11/9/83—published 1/18/84, effective 2/22/84]  
[Filed 1/9/85, Notice 11/21/84—published 1/30/85, effective 3/6/85]  
[Filed 2/7/86, Notice 12/18/85—published 2/26/86, effective 4/2/86]  
[Filed emergency 6/20/86—published 7/16/86, effective 7/1/86]  
[Filed 8/29/86, Notice 7/16/86—published 9/24/86, effective 10/29/86]  
[Filed 5/11/87, Notice 3/11/87—published 6/3/87, effective 7/8/87]  
[Filed emergency 3/30/88—published 4/20/88, effective 4/1/88]  
[Filed 6/22/88, Notice 4/20/88—published 7/13/88, effective 8/17/88]  
[Filed 11/3/88, Notice 9/21/88—published 11/30/88, effective 1/4/89]  
[Filed emergency 11/30/89—published 12/27/89, effective 12/1/89]  
[Filed emergency 8/8/90—published 9/5/90, effective 8/10/90]  
[Filed 11/7/90, Notice 9/5/90—published 11/28/90, effective 1/2/91]  
[Filed 12/18/92, Notice 10/28/92—published 1/6/93, effective 2/10/93]  
[Filed 12/16/93, Notice 11/10/93—published 1/5/94, effective 2/9/94]  
[Filed 11/29/95, Notice 10/25/95—published 12/20/95, effective 1/24/96]  
[Filed 3/5/97, Notice 1/29/97—published 3/26/97, effective 4/30/97]  
[Filed 10/28/98, Notice 8/26/98—published 11/18/98, effective 12/23/98]